

Inquiries into Modules.



[Contents](#) [Previous](#) [Next](#)

Goal: Learn how to check what's inside a module.

The built-in function *dir()* can be used to find out which names a module defines. It returns a sorted list of strings:

```
# import 'time' module

# see what functions are defined in the 'time' module
dir(time)
['__doc__', '__file__', '__name__', 'accept2dyear',
'altzone', 'asctime', 'clock', 'ctime', 'daylight',
'gmtime', 'localtime', 'mktime', 'sleep', 'strftime',
'strptime', 'struct_time', 'time', 'timezone', 'tzname',
'tzset']

# without arguments, 'dir()' lists the names: variables,
# modules and functions you have defined currently
dir()
['__builtins__', '__doc__', '__file__', '__name__',
'readline', 'rlcompleter', 'time']
```

You can see if there is an internal documentaion by looking at `.__doc__`

```
# check the documentation about the ctime() function
print time.ctime.__doc__
ctime(seconds) -> string

Convert a time in seconds since the Epoch to a string in local time.
This is equivalent to asctime(localtime(seconds)). When the time
tuple is not present, current time as returned by localtime() is used.

# to see the whole documentation on time() module, type
print time.__doc__
This module provides various functions to manipulate time values.
...

Variables:

timezone -- difference in seconds between UTC and local standard time
altzone -- difference in seconds between UTC and local DST time
daylight -- whether local time should reflect DST
tzname -- tuple of (standard time zone name, DST time zone name)

Functions:

time() -- return current time in seconds since the Epoch as a float
clock() -- return CPU time since process start as a float
sleep() -- delay for a number of seconds given as a float
gmtime() -- convert seconds since Epoch to UTC tuple
localtime() -- convert seconds since Epoch to local time tuple
asctime() -- convert time tuple to string
ctime() -- convert time in seconds to string
```

```
mktime() -- convert local time tuple to seconds since Epoch
strftime() -- convert time tuple to string according to format specification
strptime() -- parse string to time tuple according to format specification
tzset() -- change the local timezone
```

You can also get help with through the **help()** function

```
# use help(..) to get more info on the module
help(time)
Help on module time:
```

NAME

time - This module provides various functions to manipulate time values.

FILE

/home/mccoy20/utils/cdat/lib/python2.4/lib-dynload/time.so

MODULE DOCS

<http://www.python.org/doc/current/lib/module-time.html>

DESCRIPTION

There are two standard representations of time. One is the number of seconds since the Epoch, in UTC (a.k.a. GMT). It may be an integer or a floating point number (to represent fractions of seconds). The Epoch is system-defined; on Unix, it is generally January 1st, 1970. The actual value can be retrieved by calling `gmtime(0)`.

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[Contents](#) [Previous](#) [Next](#)